

The Many Meanings of Color

*Developed as part of Complementary Learning: Arts-integrated Math and Science Curricula
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Introduction

This lesson is meant to teach two things: qualitative and quantitative research methods, data and uses as well as color theory, its history and its meaning in various cultural contexts. Students will learn how these two types of data are implemented in marketing and social sciences and they will demonstrate knowledge of both methods while exploring the meanings of color in the culture of their classroom.

Grade level and Subject Area

This lesson was developed for 9th grade math and art/art history classes.

Objectives

- Understand color theories of our culture and explore the differences and commonalities between ours and others' concepts of color.
- Create and implement a survey to collect qualitative and quantitative data.
- Classify data and as quantitative (measurement) or qualitative (categorical).
- Analyze qualitative and quantitative data.
- Practice effective communication and teamwork.

Key Concepts

- **According to the accepted color theory in our culture, colors are determined by their relationships and direct proximity to other colors.** In addition, the symbolic and psychological meanings of color are not included in color theory of design.
- **Color theory is culturally constructed.**
- **Qualitative means words, quantitative means numbers.** The experiment about color meanings and associations will allow students to ask questions that will produce both qualitative and quantitative data. By designing the questions themselves, they will learn to distinguish qualitative from quantitative questions and answers.

Key Ideas

1.) Color Theory in our Culture and Elsewhere

- **Key Terms**

Hue- *Color, pigment.*

The Color Wheel- *In western culture, the visual representation of color relationships. Looks like a pie in which each slice is a different color and each color positioned strategically to express its relation to all the other colors.*

Primary- *red, yellow, blue; in our color theory, the three basic colors from which, theoretically, all other colors come.*

Secondary- *orange, green, purple; the three colors made up of the primaries and situated between and across from them on the color wheel.*

Tertiary- *Colors made up of primaries and secondaries and situated between them on the color wheel.*

Complementary- *Colors which sit directly across from each other on the color wheel, balance each other visually, and create a neutral when mixed together.*

Neutral- *A color lacking brightness, often made up of two or more complementary pairs and white.*

Temperature- *The warmness or coolness of a color.*

Cool- *blue, green, purple alone or added to another color or composition to cool it down.*

Warm- *red, orange, yellow alone or added to another color or composition to warm it up.*

Value- *The lightness or darkness of a pure hue OR a shade or tint.*

Light- *How light a color is; the extent to which a color appears to move forward in space as a result of being mixed with white or diluted.*

Dark- *How dark a color is; the extent to which a color appears to recede in space as a result of being mixed with black or a complementary color.*

Shade- *A color mixed with black.*

Tint- *A color mixed with white.*

Intensity- *The extent to which a pure color has been changed by the addition of other colors. The most intense color is pure and it becomes less intense with the addition of its complement.*

Bright- *A pure hue or a color with only very little of its complement added.*

Saturated- *A color mixed with its complement and no white.*

Cultural construct- *an aspect of the human experience which is defined by its cultural context. Theories such as political, art and design theory are, like race and gender, culturally constructed (“Definitions”).*

Humanist- *A thought pattern which puts human thought, logic and reasoning at the center (“Definitions”).*

- **Sir Isaac Newton, Josef Albers, Johannes Itten and the Color Wheel:** These are some of the major contributors to modern color theory. Sir Isaac Newton wrote *Opticks* in 1704 in which he introduced a diagram of color in the form of a wheel. Albers and Itten are Bauhaus artists and theorists who contributed to the concepts of color theory being about the visual relationships that colors have. These are only key players in the development of color theory, there are many others who have contributed to this idea. The goal is to understand that since the Renaissance western culture has emphasized scientific reasoning and therefore sought to objectively order color relationships and contrast. In making and viewing art we focus on the way colors interact with each other and have developed a color theory lexicon to help explain these relationships. Key words include: primary, secondary, tertiary, complementary, warm, cool, dark, light, shade, tint, value, brightness, saturation, intensity and hue.
- **Johannes Itten’s Seven Types of Contrast:** All seven types can be used to put more or less emphasis on a given color and are therefore useful to artists, advertiser and designers.
 - Hue: contrast of colors
 - Light-Dark: contrast created by differences in value
 - Cold-Warm: contrast of temperatures
 - Complementary: contrast of complements in order emphasize one or the other, or create a sense of activity.
 - Simultaneous: contrast which causes a color to appear like the complement of whatever color is surrounding it.
 - Saturation: contrast in the levels of brightness of a color
- **Color Theory is a cultural construct:** Cultural constructs are a part of the system of meaning created by a culture in order to explain the world around them. Our construction of color theory is highly influenced by other cultural constructs and beliefs such as humanism, a product of the Renaissance which glorifies human knowledge and

experience. Other cultures base color theory on beliefs that are important in their cultures. The lesson will briefly explore color theory in Yoruba art and religion, feng shui and ancient Egyptian painting.

- **Western perspectives of color emphasize rational and scientific bases of color theory in art.** A brief look at the color theories used in Yoruba, Chinese, and ancient Egyptian art will demonstrate the importance of spiritual and psychological associations made with various colors and how these associations influence color theory in these cultural contexts. Students will discuss the way that colors are processed spiritually and psychologically in western cultures as well, and explore the opposition between scientific and spiritual/psychological to color use.

2.) Qualitative and Quantitative Research Methods, Data and Analysis

- **Key Terms**

Social Science- *The scientific fields which study the human experience. These sciences include psychology, sociology, anthropology, ethnography, economics, marketing, and many others (“Definitions”).*

Anthropologist- *A person who studies anthropology, the study of humanity (“Definitions”).*

Ethnographer- *A type of anthropologist who works in ethnography, the active observation of cultures for the purpose of describing that culture’s key features, values, beliefs, etc (“Definitions”).*

Sociologist- *A person who studies sociology, the study of human societies (“Definitions”).*

Market researcher- *A person who studies the market, usually to help devise a marketing plan which will determine whether or not the product is viable in the market. They answer the questions: Are there consumers? Who are they? Will they actually buy this product?*

Focus group- *A tool in marketing that helps researchers study the market by gathering a group of consumers and interviewing them together and in depth.*

Sample- *The entire group of people who participates in the interview, survey, focus group, or other Study.*

- Qualitative and Quantitative methods are used by researchers in the social sciences: the fields of psychology, anthropology, ethnography, sociology, marketing and others.
- **Qualitative**
 - **Research methods:** Methods involve the use of tools such as one-on-one interviews, focus groups and case study reviews which produce qualitative data. These studies are often used preliminarily as a way of doing research to produce a hypothesis that will later be tested by quantitative methods. Qualitative research is especially useful to social scientists such as anthropologists, ethnographers, sociologists, market researchers and psychologists because it involves researching with the goal of understanding human behavior. In this lesson, students will be required to design their own brief studies using qualitative research methods that they have learned.
 - **Data:** Data that are categorical, objective, and can be expressed in words and explanations. A survey of peoples' opinions produces qualitative data.
 - **Analysis:** The analysis of qualitative data involves an understanding the subjects' thoughts, ideas, opinions and reflections as well as the ability to articulate a comprehensive summary of these data. Students will learn by analyzing their own data that they will have to recognize trends and patterns in words instead of in numbers.
 - **Benefits:** Qualitative research allows research to understand and then draw their own conclusions, instead of the other way around which is often the way of qualitative research. This type of research produces complex, often profound information and provides insights which can be used to make hypotheses.
 - **Disadvantages:** Qualitative research often takes longer to analyze. It also demands more commitment and motivation from informants, or study participants who sometimes lie or omit information even when they know that they are participating in a study or survey anonymously.
- **Quantitative**
 - **Research methods:** Quantitative research methods involve the use of measures and tools. They are often used to test hypotheses generated from qualitative research. For example, a focus group might be used to do preliminary research about what potential customers exist for two new products and a quantitative study such as a blind taste test might be used to determine which of two products consumers prefer.
 - **Data:** Data that are measurable and can be expressed in quantities or numbers. A classroom study on number of boys versus number of girls will produce quantitative data can be expressed in numbers of people.

- **Analysis:** Quantitative data is counted and then reported in percentages, graphs, charts, and tables. It is easy to create a visual representation of quantitative data and often easier to understand it when expressed thusly.
- **Benefits:** Quantitative data is often easier and less time consuming to analyze. It produces hard and fast answers, which is why it is often used to test hypotheses. It often demands less commitment and motivation from informants and study participants.
- **Disadvantages:** Quantitative research skims the surface of information to understand about a research topic and the implications of its data lack complexity. It is often inherently biased in that it is used to test the truth in a human generated hypothesis.
- **Writing Effective Unbiased Surveys.** Students will learn to ask clear, specific questions that produce accurate qualitative and quantitative data.
 - **Writing quantitative questions:** Asking questions about how many, how much, yes or no, to what extent (scale questions, i.e. to what extent do you agree on a scale of 1-5). It is important to determine how the question will be analyzed before you write it. It is important to think about what form of answer the question will receive if you want to be able to count your data and make a table of it. Answers are short, one word, a number, an item circled or checked.
 - **Examples:** Did you watch TV last night? How many hours did you watch TV last night? What shows did you watch? What channels did you watch last night? Did you change the channel during the commercials? Do you think that violence on television should be prohibited?
 - **Writing qualitative questions:** Asking open-ended questions which require interviewees and survey respondents to explain or reason a little. These kinds of answers will be descriptive and could be rather lengthy. These are why questions and what questions, and often don't even end with a question mark, but rather just ask to explain or describe.
 - **Examples:** Why do you like watching MTV? How do you feel about violence on television? Why do you feel that violence on TV should/shouldn't be prohibited? What do you think local news shows could do to increase their numbers of teenaged viewers?

Materials

- Computer with internet access
- Worksheet for use in cooperation with Flash document at www.poynterextra.org/cp/index.html
- Survey to be used in galleries at Cleveland Museum of Art
- Qualitative, Quantitative and Question Writing Guide Handout

- Poster board, construction paper, glue, markers, rulers, acrylic paint, other materials (for poster presentation).
- Word, Photoshop, Publisher or Illustrator (for advertisement).
- Calculator, paper, pencil (for calculating qualitative data of survey).

Procedure

Day 1: PowerPoint Introduction to Color Theory and Color as a Cultural Construct

Goal: Introduce the concept of color theory and establish the idea of cultural constructions.

- Present Color Theory PowerPoint
- Major points to emphasize
 - Color theory is a way of understanding and organizing colors as a way of understanding them and as a guide to using them in art and design.
 - The predominant color theory in western art and culture is based on the ideas of artists, art theorists and scientists and has been developing for centuries. It is a highly scientific theory based on the humanist values adopted during the Renaissance and maintained to the present day. It does not take into account the symbolism of colors which exists, but has not been extensively scrutinized by scientific methods. Symbolic meanings of color certainly exist, but are often secondary to scientific implications.
 - Color theory in western culture emphasizes the relationships between colors and the effects that their mutual use can create such as contrast, vibration, tension, and harmony. These relationships have been diagramed in the form of the color wheel, which people use to help them effectively mix colors and create color combinations.
 - Key terms include: hue, primary, secondary, tertiary, complementary, analogous, value, shade, tint, intensity, brightness, saturation, and neutral.
 - Color theory is different in every culture (or shared system of meanings) and reflects the values and beliefs of its context. Our color theory has been influenced by humanist values. Yoruba and ancient Egyptian color theories connect humans to their deities, while the color theories of Chinese feng-shui are used to create a balance of yin and yang in human environments.
 - Colors have symbolic meanings in our culture.
- Class activity: At the end of the PowerPoint brainstorm the meanings of various colors as a class.
- Ask students to take notes on the presentation and the class activity which will help them with future activities in this lesson.

Day 2-3: Online activity.

Goal: Develop understandings of the major tenets of color theory, especially color relationships and contrast

- Using the online activity worksheet as a guide, students will explore the interactive project from the Poynter Institute Online.
- Students will learn about color theory and its major principals to help them with subsequent projects.

Day 4: Look for examples of color at work in the CMA collection, using questionnaire.

Goal: Begin to recognize and apply color theory to works of art. Collect qualitative and quantitative data for future use.

- Students will go to CMA and answer survey questions as they tour the galleries.
- Teachers should collect the surveys at the end of the trip so they can be redistributed in class, where the data will be analyzed and interpreted.

Day 5: Learn about qualitative and quantitative data. Study questions and answers from museum field trip to determine which produced qualitative and quantitative data.

Goal: Understand the difference between qualitative and quantitative research methods, data, and practical uses. Be able to recognize questions that produce qualitative and quantitative data.

- Present the PowerPoint about qualitative and quantitative data. Major ideas include:
 - Qualitative research methods are used mostly by social scientists to formulate a thesis or hypothesis. Quantitative research methods can then be used to test the validity of the hypothesis.
 - Qualitative data is categorical and based on words and qualities. Quantitative data is numerical and based on measurements and quantities.
 - Qualitative and quantitative research methods are used by psychologists, ethnographers, anthropologists, sociologists, and market researchers for various reasons but with the common purpose of pinpointing, understanding and verifying human behavior and experiences. Quantitative data is used more exclusively in physical sciences.
 - In asking a question for a survey or other purpose, the desired type of answer must be taken into consideration. Students will learn what questions to form for simple yes or no answers, for scale-based answers and ratings, or more complex and descriptive answers; they will learn which questions produce qualitative and which produce quantitative data.
- After the PowerPoint presentation, return surveys from the museum activity to students to analyze the questions. As a class, go through the questions to determine which produced qualitative and which produced quantitative data.

Day 6: Learn how to analyze qualitative and quantitative data, analyze it in small groups.

Goal: Learn to analyze qualitative and quantitative data.

- Divide the class into groups of three or four. Ask them to choose one quantitative and one qualitative question on the survey and analyze both.
- For quantitative data, students will need to tally totals and calculate percentages based on the number of people in their group. They will then determine what type of graph would be most appropriate to use for displaying the data produced by the question.
 - Example: Analyze question 11 from the museum activity questionnaire.
 - 1.) Determine the sample size (the number of people who filled out the survey. Note that most researchers determine a sample size before asking the questions but for this project we will be using the class as a sample.)
 - 2.) Calculate how many people circled each of the options. Calculate the percent that each option accounts for the whole by dividing the number of times that each option was circled by the sample size. If x =the number of people who associated fear with the color red in the St. Peter painting and y equals the sample size, then the percent of people who associated the color red with fear in the St. Peter paintings is $x \div y$.
 - 3.) Determine what type of graph would best display the data.
- For qualitative data, students will need to share their answers and discuss the trends and disparities in the answers among them to arrive at a general observation of their data.
- Each group will present their data and conclusions to the class. They will need to state clearly the type of graph that they chose for displaying their quantitative data and the general observation that they made of their qualitative data.

Day 7: Discuss practical uses of surveys and introduce project.

Goal: Understanding the different applications of qualitative and quantitative research and putting these applications into practice.

- These research methods are used by market researchers to determine potential clients and products; they use tools such as focus groups and surveys. Psychologists use qualitative and quantitative research to study patterns of behavior and anthropologists such as ethnographers use them to study the values, beliefs and behaviors of certain cultures; these social scientists use tools such as interviews, surveys, case studies and historical records to collect their data.
- **Project:** Groups of 3-5 students will choose to conduct one of two different types of survey study; either an ethnographic study of the symbolic meanings of color in the classroom, or a market study of what painting their class would like to hang in the classroom to promote productivity. Both will require them to work together efficiently to write a survey consisting of 3-4 qualitative and 3-4 quantitative questions.

- Those who choose to do the ethnographical will conduct a study their classmates' perceptions and symbolic understandings of a color of their choosing and appropriately present the data.
- Students will need to discuss which color they wish to examine and have a conversation about what that color means symbolically amongst the group in order to form a hypothesis on which to base their questions.
 - **Study Examples:** Do 9th grade students at John Hay generally perceive the color blue in a positive light? What symbols do 9th grade students at John Hay associate with the color red?
- Those who choose the marketing project will create a study with the goal of identifying a painting that their classmates feel will promote productivity in the classroom. They will then create a flier to advertise the painting to similar classrooms using the principals of color theory to effectively focus attention on the “product”. These groups will also present their work to the class, summarizing their survey results and explaining their uses of color theory in the ad.
- Students will need to choose two paintings that they would like to show
 - **Study Example:** Would *Holiday on the Hudson* by George Luks or *Noah: The Eve of the Deluge* by John Linnell be more distracting in a classroom setting?

Day 8: Students divide into groups and begin writing their survey questions.

Goal: Students will work together to create a cohesive body of survey questions thereby practicing question and answer forming and exercising teambuilding and communication skills.

- Students must write questions that will produce 3-4 qualitative and 3-4 quantitative answers. They may use the question-writing guide provided.
- Their surveys will be compiled by the teacher and redistributed to the class with photo references of all the work viewed on the field trip to CMA. Implementing only works with which the students are immediately familiar and have seen in person will allow them to draw deeper, fresher insights and improve survey results.

Day 9-10: Students will analyze the data to draw conclusions about color symbolism perceptions amongst their peers, or determine which “product” they will market in the poster.

Goal: Practice data analysis, effective teamwork and communication.

- Students will study the data and draw conclusions. They will then devise a plan for presenting the data, choose the types of graphs that they will use to display quantitative data, and determine how they will summarize and present the qualitative data.
- Those who chose to do “market research” will collaborate on a design for the poster advertisement of the painting that they determined to be preferable according to the

survey results. They must use at least three different color theory principles and be able to explain how these affect the overall appeal of the advertisement. They should have access to appropriate materials including poster board, images of the artwork, and ideally Photoshop, Illustrator, Publisher or the like.

Day 11: Project presentations- Each team will meet briefly and then present their posters to the class. They must be able to explain the conclusions that they drew from their particular study or their decision to market the specific piece to the class as well as their specific applications of color theory to the advertisement poster.

Ohio State Standards and Benchmarks

Visual Arts Standards and Benchmarks

Standard: Creative Expression and Communication

Benchmark B. Create expressive artworks that demonstrate a sense of purpose and understanding of the relationship among form, materials, techniques and subject matter.

- Use available technology (e.g., digital imagery, video and computer graphics) as a tool to explore art techniques and to express ideas .
- Make informed choices in the selection of materials, subject matter and techniques to achieve certain visual effects.

Standard: Valuing the Arts/Aesthetic Reflection

Benchmark B. Identify and analyze a variety of viewpoints on aesthetic issues and themes in visual art and develop a personal point of view.

- Research and explain various aesthetic theories in visual art.

Mathematics Standards and Benchmarks

Standard: Data Analysis and Probability Standard

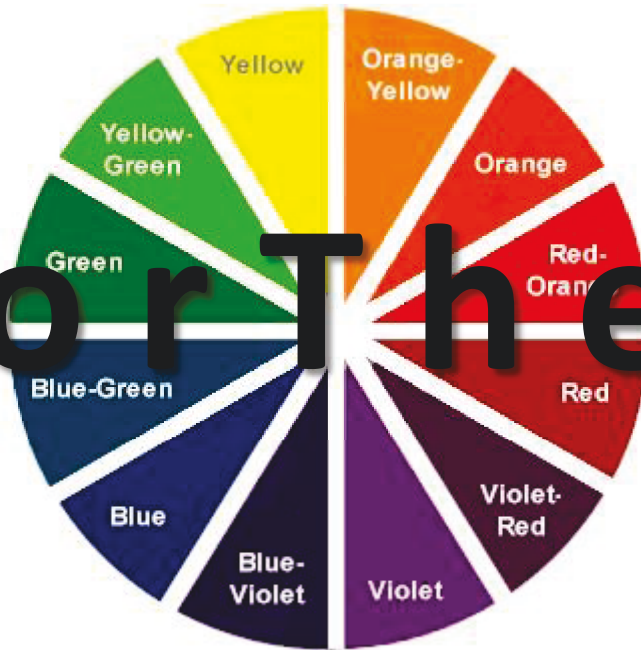
- Benchmark A. Create, interpret and use graphical displays and statistical measures to describe data; e.g., box-and-whisker plots, histograms, scatterplots, measures of center and variability.
- Benchmark B. Evaluate different graphical representations of the same data to determine which is the most appropriate representation for an identified purpose.

Works Cited

“Definitions of Anthropological Terms.” Anthropological Resources.2008. Oregon State University Department of Anthropology. 25 August 2008
<<http://oregonstate.edu/instruct/anth370/gloss.html>>

This lesson was developed by Sarah Shuster-Tucker, Undergraduate Intern, Cleveland Museum of Art, 2008

Color Theory



What is color theory?

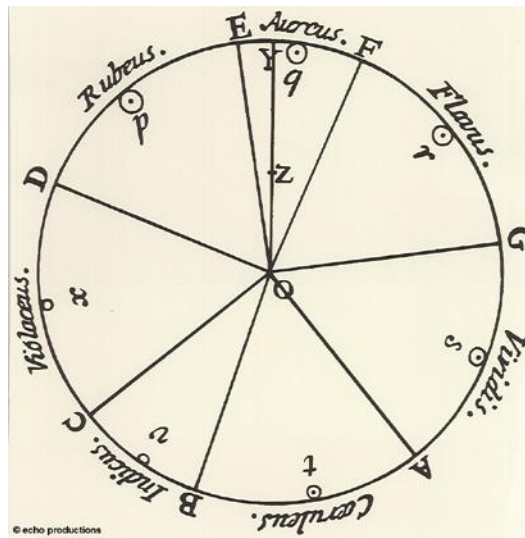
- Color theory is studied by artists, art historians, art critics and scientists in order to understand the interactions between colors, the uses of colors, and the scientific properties of colors.
- Often involves the psychology of colors, not to be confused with symbolism of colors which is determined culturally.
- Also involves studying the way that the brain sorts and processes colors that we see.

Guys who studied color

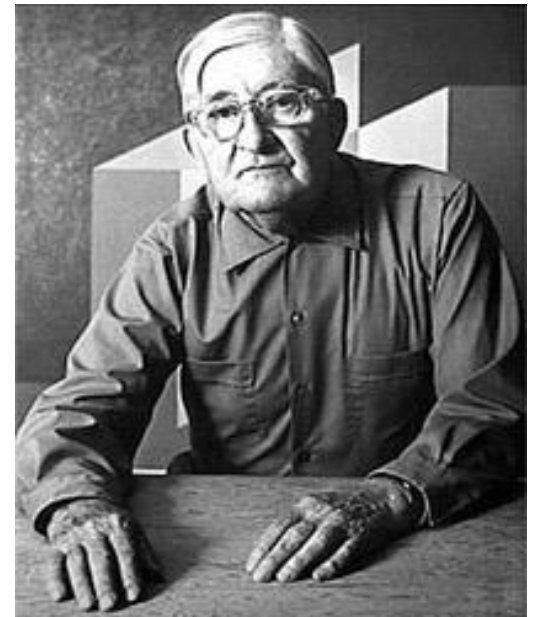


Sir Isaac Newton wrote *Opticks* in 1704, in which he identified complementary colors and noted that only complements made neutrals. His color wheel has been adapted to the one that we use today (Gage 34).

Newton's color wheel



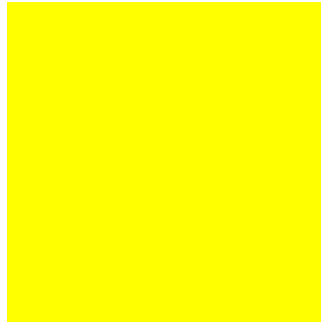
Josef Albers was a Bauhaus professor and artist who began teaching and writing about color in the mid 1900s.



The Color Wheel



Primary Colors



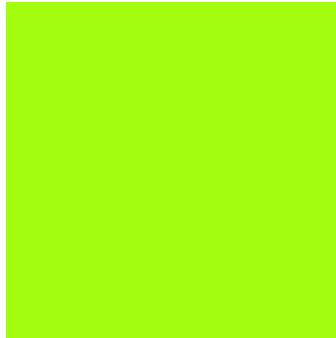
Primary Colors by Poussin



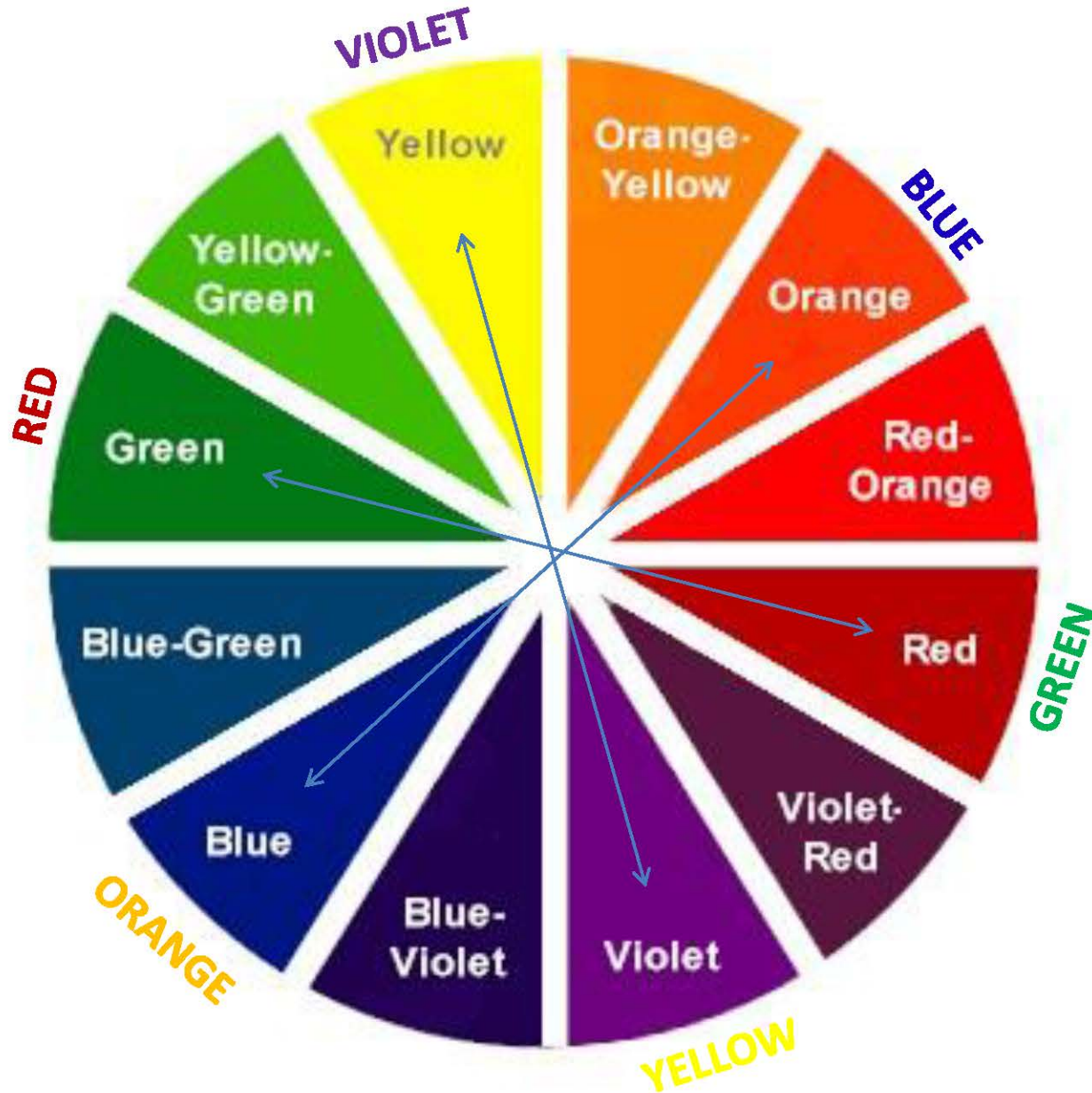
Secondary Colors



Tertiary Colors



Complementary Colors



Complementary Color Schemes

Blue

and

Orange





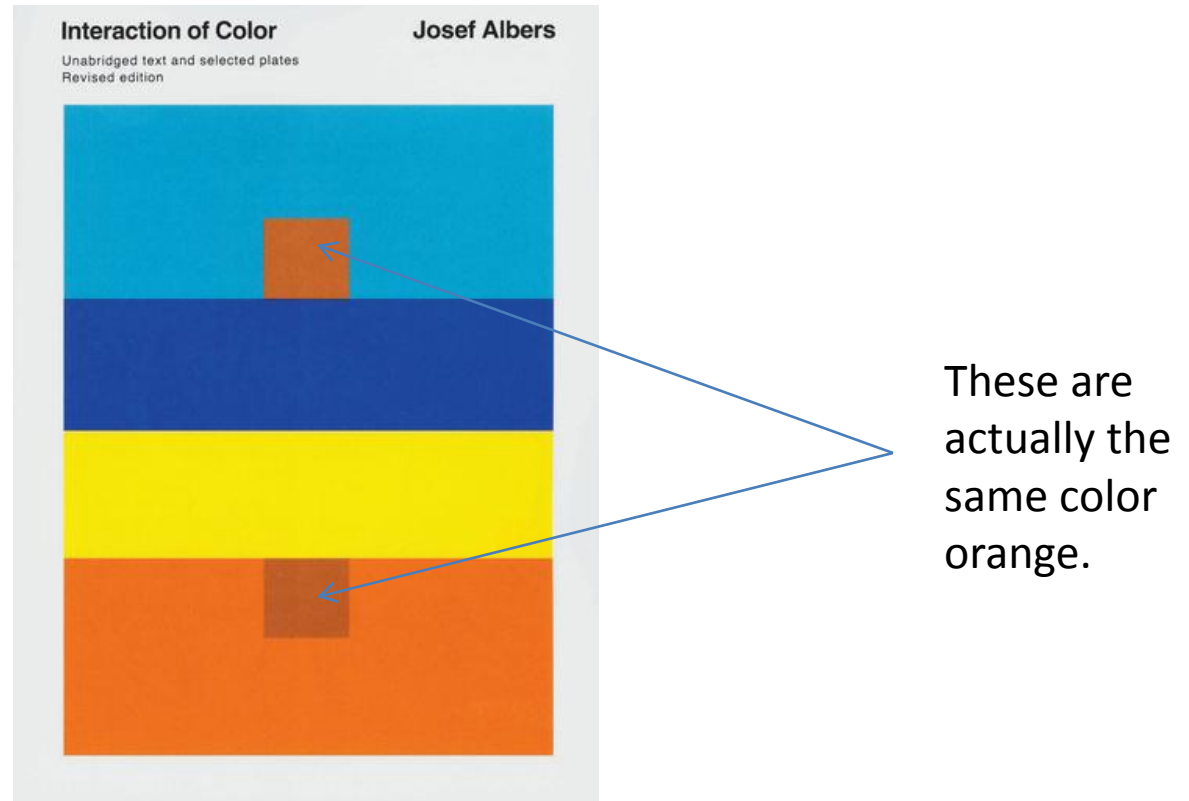
Green and red.

More complementary colors

Yellow and **Violet**

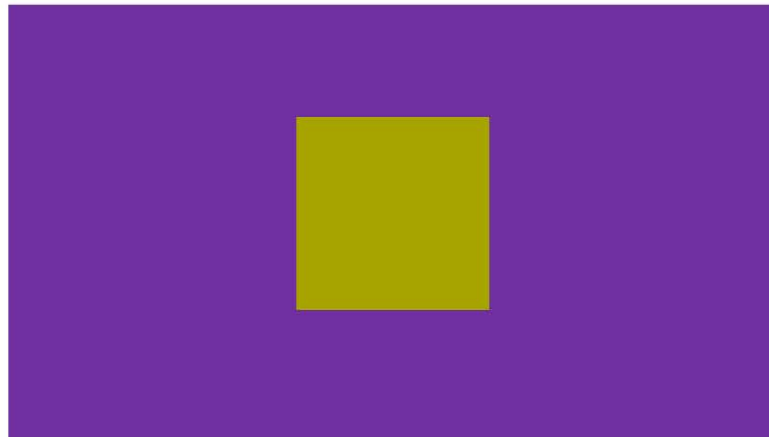
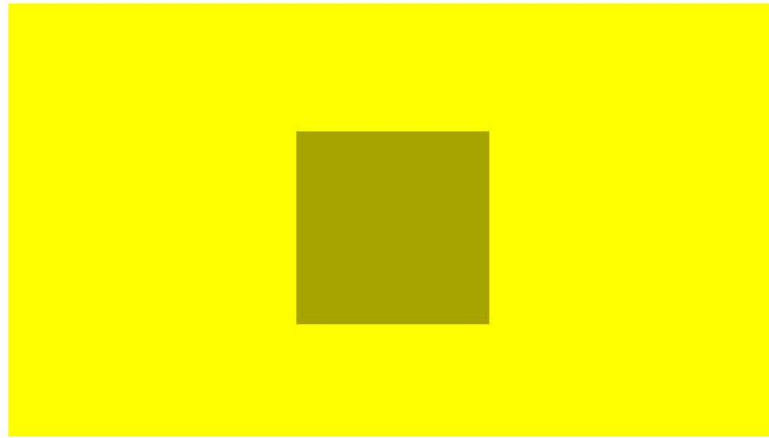


Colors are determined by their relationships with each other.



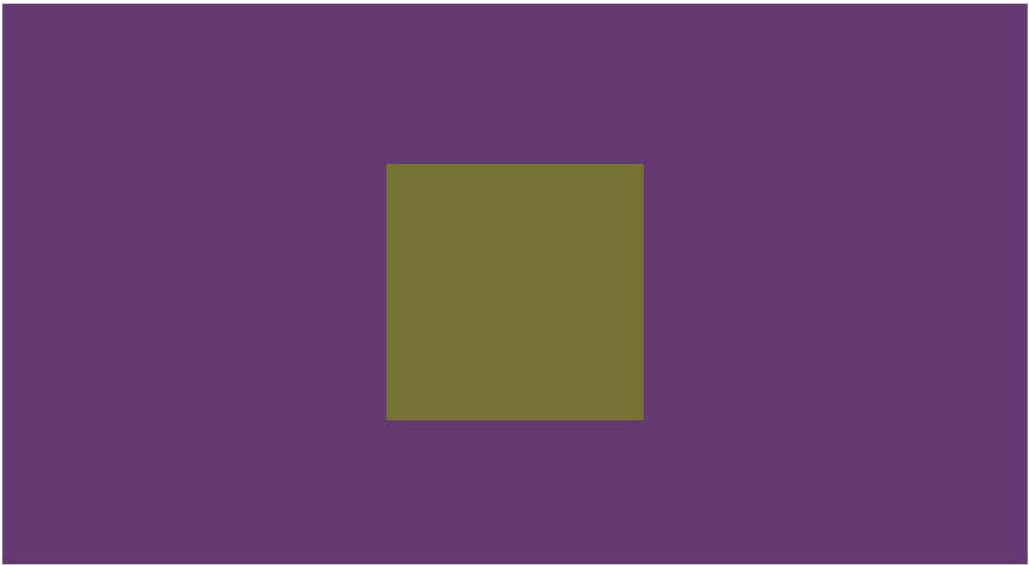
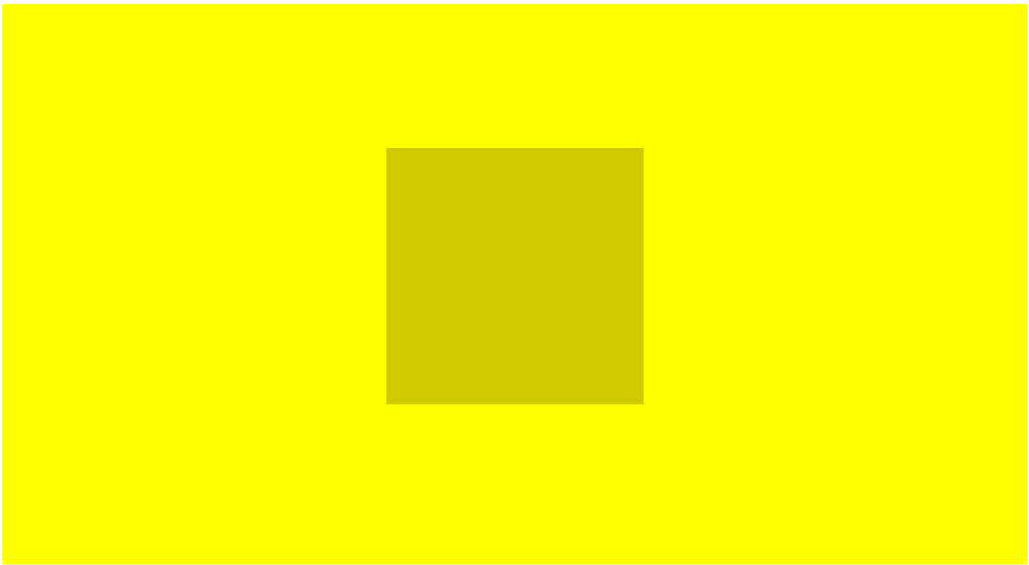
- Colors can look like completely different colors depending on where they are. This is an idea that Josef Albers introduced in the mid 1900s.

And now for some color magic...

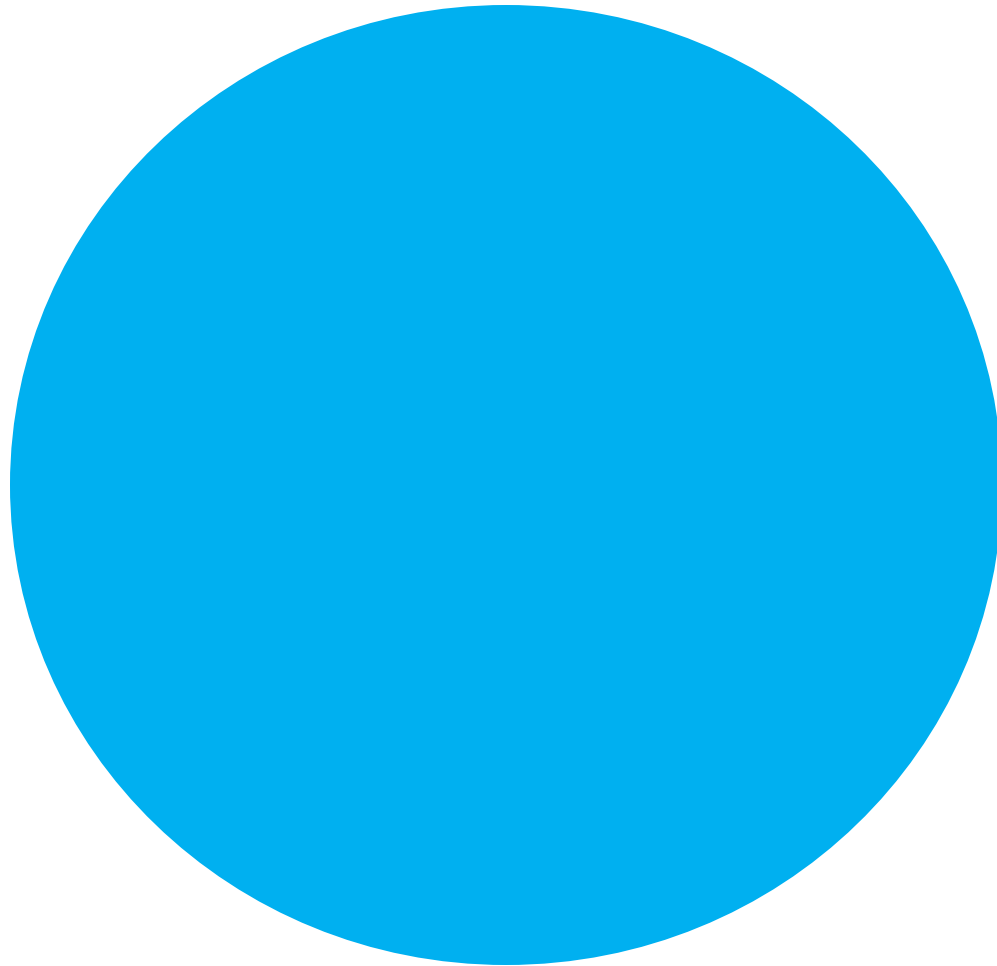


It's not really magic, this is how it works...

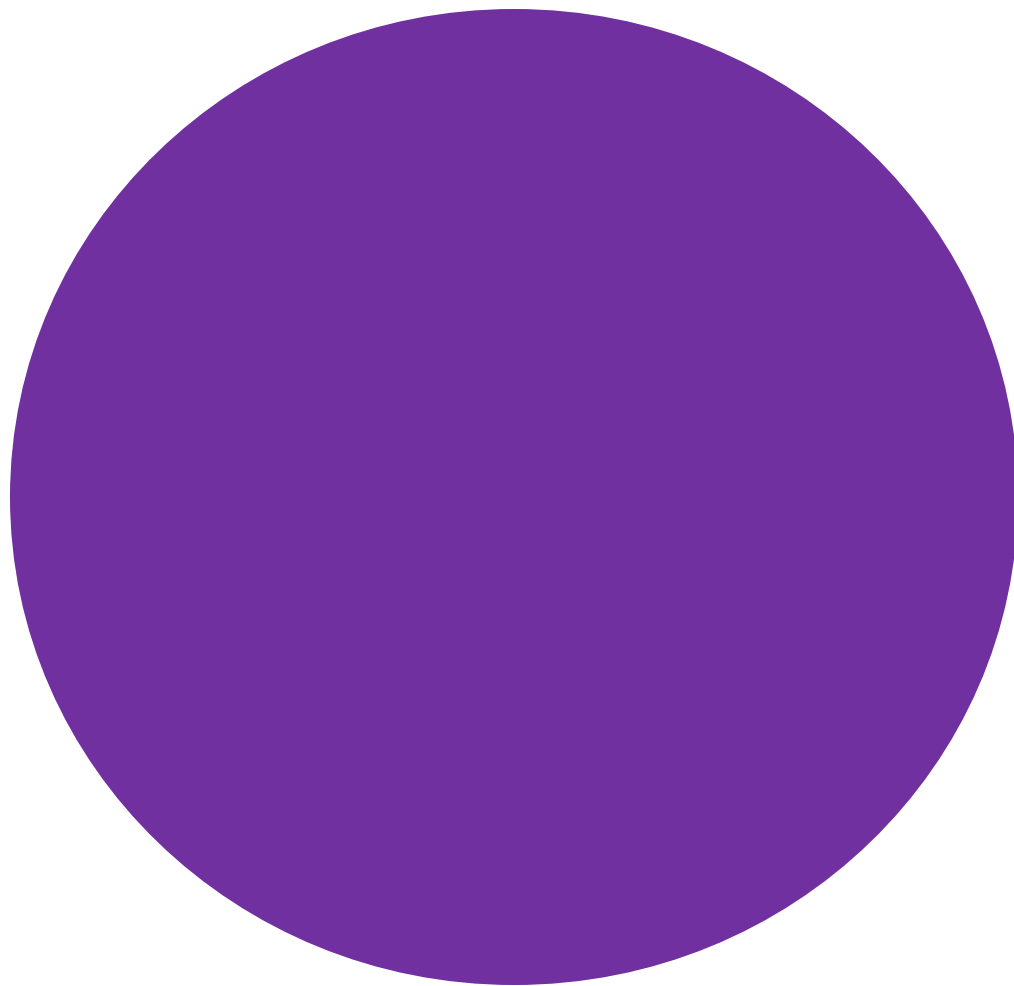
- These two colors look so different when surrounded by yellow and purple because the color of the two identical squares contains both yellow and purple. When that color is surrounded by an intense yellow or purple the brain immediately sorts all the colors to see more of the complement of the rectangle in the square within it, making the square within the yellow rectangle appear darker and more purple and the square within the purple rectangle appear lighter and more yellow.



This will prove the theory...

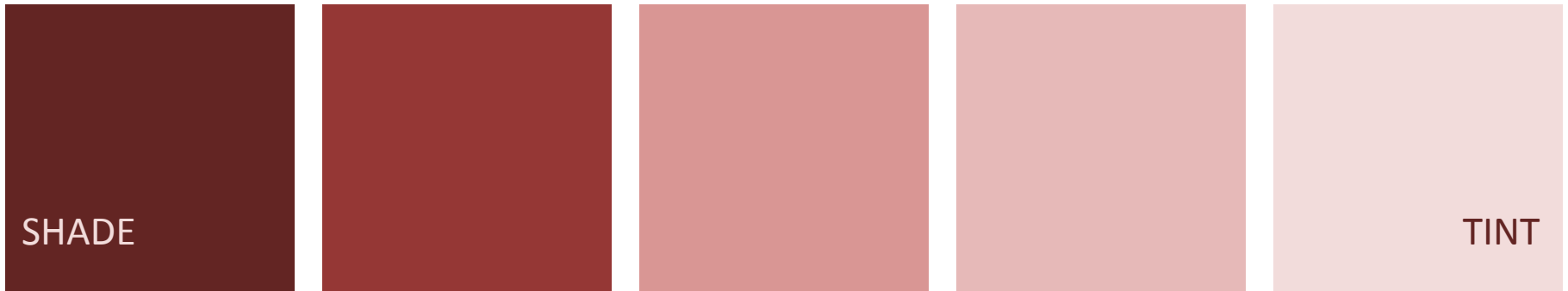


And again...

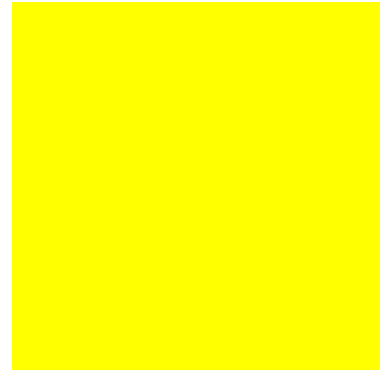


Value: Tint and Shade

- Tint and shade refer to the amount of white or black added to a color. Add white to tint, add black to shade.



Which are “lighter” which are
“darker”?



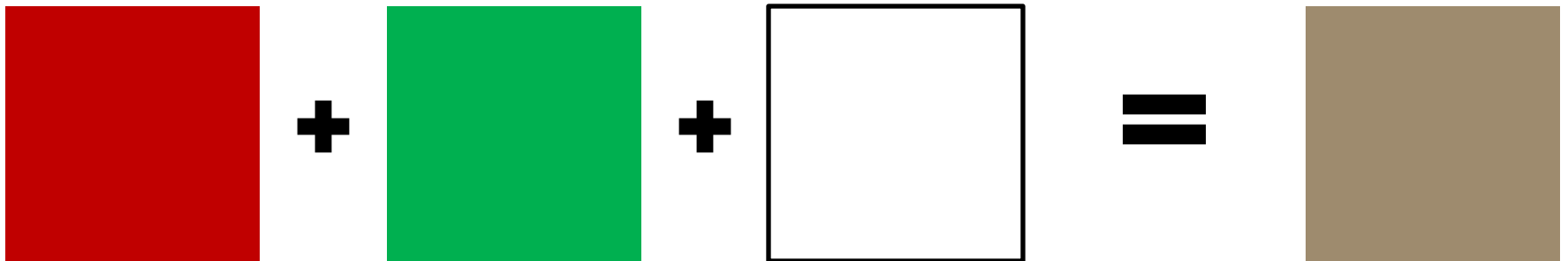
Intensity and Saturation

- The most intense hue is a pure hue, one that hasn't been mixed with any other color. The level of saturation refers to the amount of complement added to a color, the more complement added, the more saturated the color.



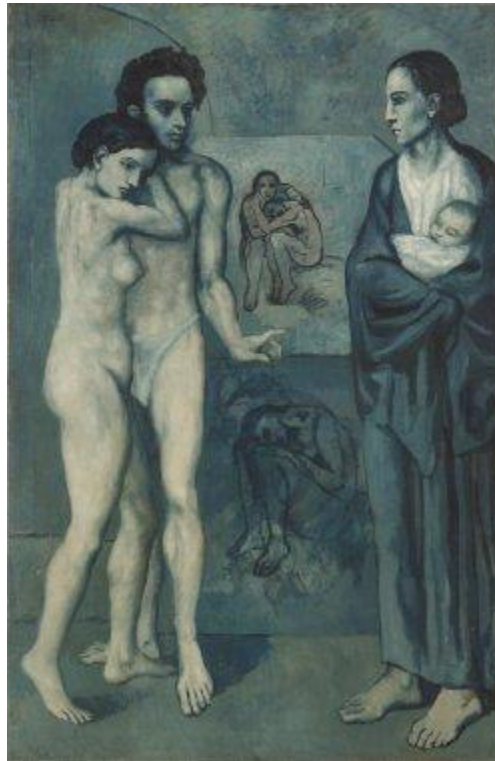
Neutrals

- By adding complements, or combinations of compliments together with white, you can create neutral colors



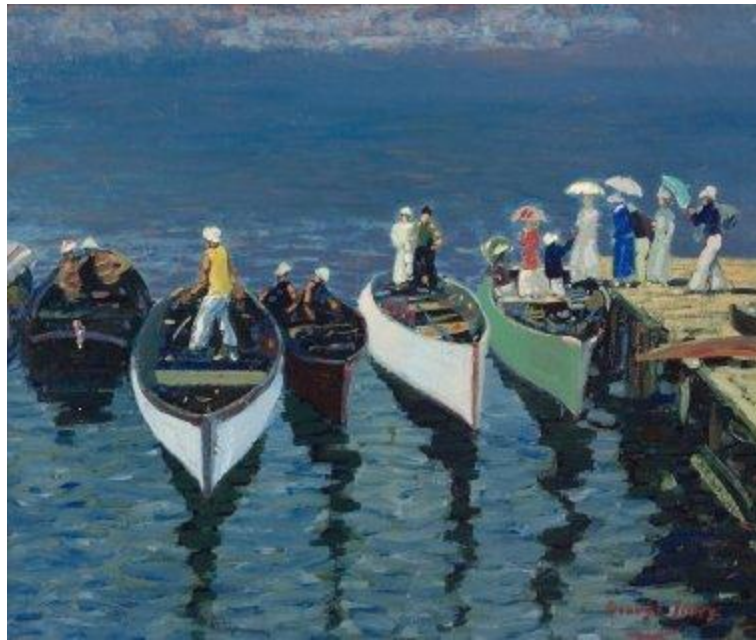
Monochrome

- A piece that is monochromatic is composed of many shades, tints, and intensities of one color. *Mono* means one, *chrome* refers to color.



Polychrome

- A piece that is polychromatic is many colored.
Poly means many, *chrome* means color.



All that being said...

Color theories, much like those in music, are cultural constructions.

- Henry Drewal, Yoruba Art Historian (Bolaji 54).

Which means that every group of people creates its own understandings of color (and everything else) and there is no way to say whether any theory is wrong or right.

Yoruba Color Theory

- Yoruba people are from southwest Nigeria.
- Color is an extremely important aspect of Yoruba culture and aesthetics.
- There are three primary groupings of colors:
Pupa—bright colors; reds, oranges, pinks, yellows, and light brown, **Dudu**—dark colors; indigo, green, purple, blacks, browns, and **Funfun**—light and shimmering colors; white, grey, cream, sky blue, silver (Campbell 54-64).

Yoruba Color Theory



Yoruba colors are connected to various gods and determine the temperaments of the gods. *Pupa* (bright colors) are associated with hot-tempered, easily angered gods. *Dudu* (dark colors) are associated with warm, moderately temperamental gods. *Funfun* (light and sheer colors) are associated with the benevolent, mild-mannered, cool-tempered gods such as Obatala, the most supreme Yoruba god who created human life.

Crowns like the one on the left are worn by a Yoruba chiefs special ceremonies. The colors of the beads connect the chief to the divinities associated with the color of each bead.

Like colors in any culture, these groupings take on multiple meanings and associations. *Dudu* is an especially human color; people believe that Obatala dips people into dudu dye giving them life and personality before they are born, though *funfun* is associated with birth, rebirth and mothers.

Similarities in Ancient Egyptian Wall Painting

Studies of ancient Egyptian magic and spells often called for the use of colors to evoke the power or protection of certain gods. Similar to Yoruba theory, white invoked benevolent gods, black invoked powerful gods, and red was a feared color which invoked demons, evil spirits, and certain gods whose powers had very specific purposes and were only used with extreme care and caution. The Egyptians also used green, but it was often an alternative to red, when red was considered too dangerous to use, and the word for green also meant also referred to a moist-looking, shiny texture (Pinch 182-184).



RED: evil, danger, potency

BLACK: power, fertility

WHITE: auspiciousness

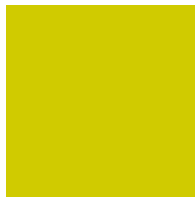
**GREEN: freshness, newness, vigor,
shiny, moist-looking**

Chinese Color Theory in Feng Shui

- In the color theory of Feng Shui colors are associated with temperatures, directions, elements of nature, and they help create the balance of yin and yang. They also have numerous symbolic meanings as well (Lip 63).



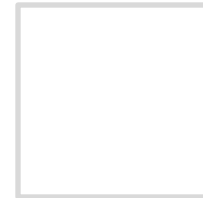
Warm
Yang



Cool
Yin



Warm
Yang



Cool
Yin



Warm
yang

Other color meanings in Feng Shui

- Colors are also associated with various elements of nature and fortune in feng shui (63).



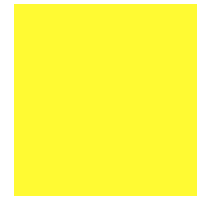
Fire
South
Happiness
luck



Wood
East
Longevity



Water
North
Heavenly
blessing

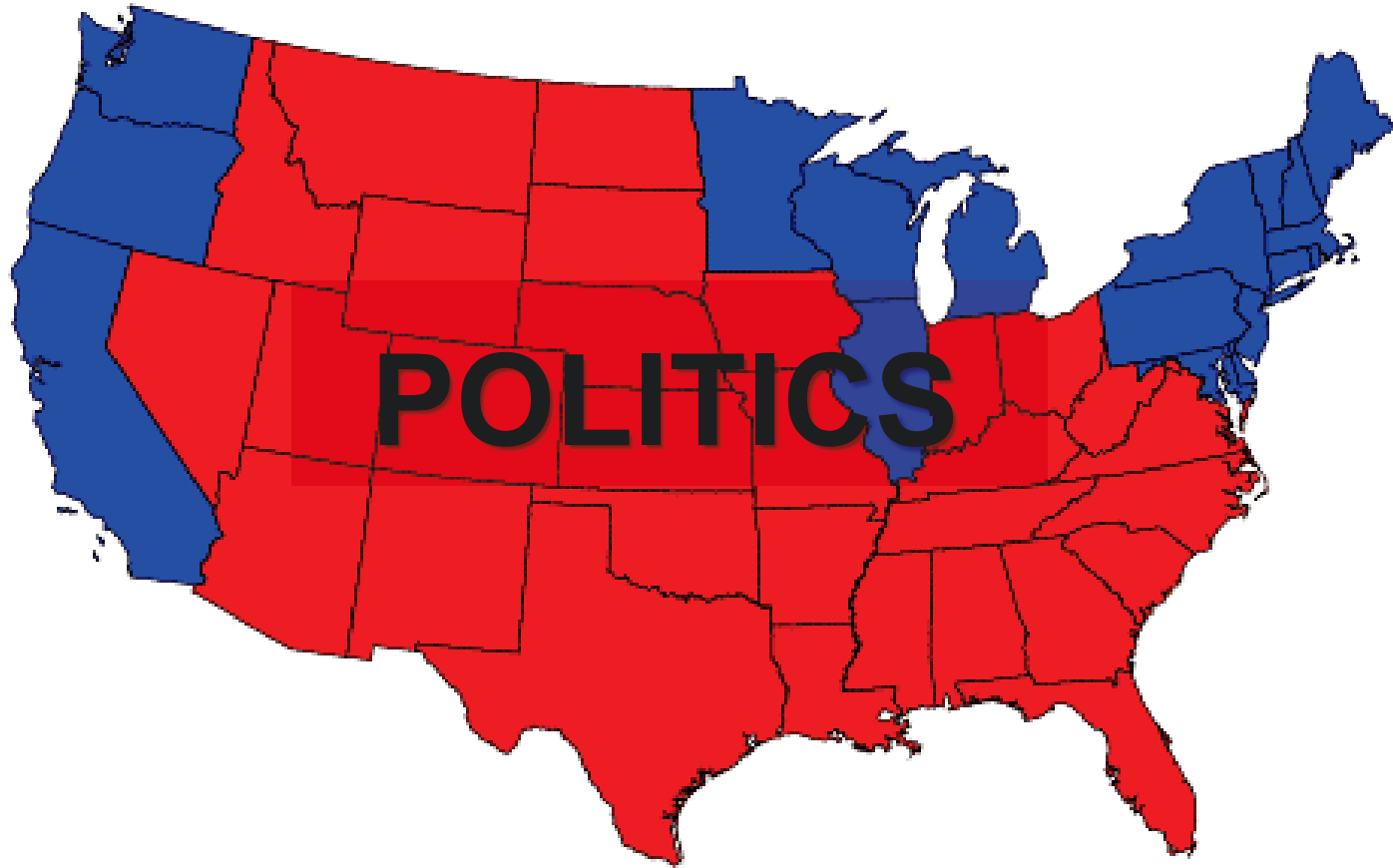


Gold
West
Power
Royalty
(gold)

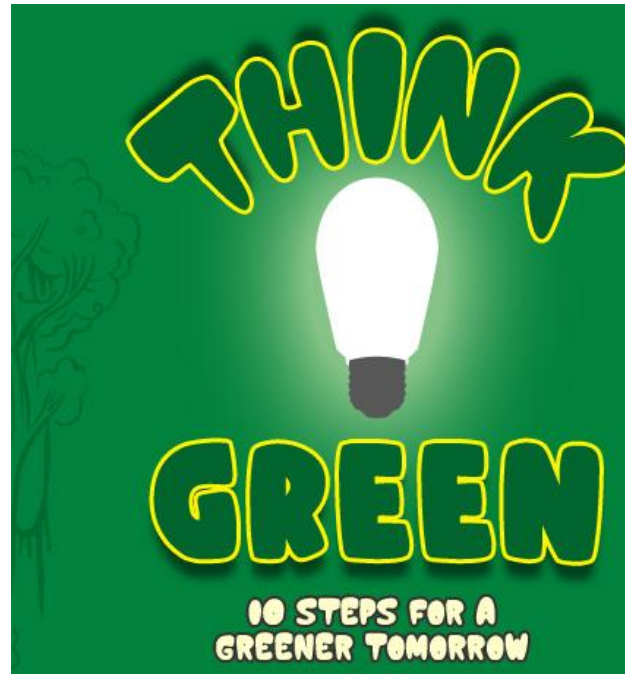


Earth
Center

Currently, our culture associates
colors with...



Environmentalism



Sexuality



Safety



Life and Death Cycles



What else do we associate with
colors?

References

- Campbell, Bolaji Victor. Yoruba Shrine Painting Traditions: Color, Cosmos, Process and Aesthetics. Diss. U. of Wisconsin-Madison, 1996. Ann Arbor: UMI, 2001. 000038465.
- Lip, Evelyn. Feng Shui Environments of Power: A Study of Chinese Architecture. London: Academy Group LTD, 1995.
- Pinch, Geraldine. "Red things: The Symbolism of Colour in Magic." Colour and Painting in Ancient Egypt. Ed. W. V. Davies. London: The British Museum Press, 2001. 182 - 185.

Go to:

<http://www.poynterextra.org/cp/index.html>

and click **ENTER**.

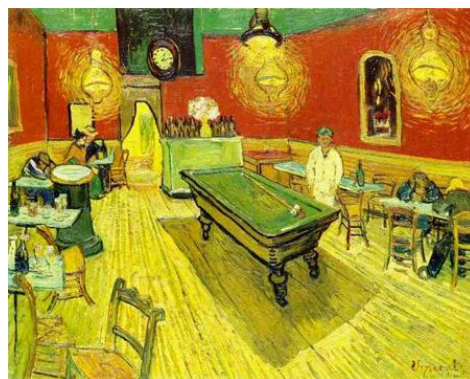
Read the introduction on the screen, and then read the introduction below.

Introduction: You will be following a series of activities that all explore color and its role in media. The goal is to understand how colors work alone and together, and to begin thinking about incorporating colors into a design of your own. With each new “page” read the accompanying description and perform the activity. Answer the questions on this sheet as you go. Some will be similar to the ones you see on the website, others will be different, so pay attention. **Also know that each time you click to a new “page” you are not actually navigating to a new webpage, but to a new slide in Flash, so if you click the back button to return to a previous “page” you will be redirected back to the beginning of the activity.** **Instead,** use the gray right and left arrows at the bottom near “Color, Contrast and Dimension in News and Design” to move from page to page. There are also seven circular buttons at the bottom of the screen that you can use to navigate section by section, and you can role your mouse over them to see where they lead before clicking them.

Now that you have read the website’s introduction, as well as the introduction above, click **START**. Have fun!

SECTION 1: “THE POWER OF COLOR: Color, Mood, and Meaning”

- 1.) Read about Van Gogh’s painting and take a look at it on the left. Van Gogh also wrote about *Night Café*, “I have tried to express the terrible passions of humanity through red and green” (Newman 630). Red and green are complementary colors. Do you think that they create harmony or tension in Van Gogh’s composition? Write a sentence or two about how this painting makes you feel.



- 2.) Click “Click here for exercise”. Next, click the black and white circle below the image. Choose three words to describe the new mood of the painting.

Online Activity Guide

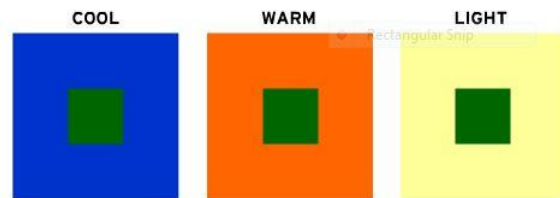
Next, click the blue circle below the image. Choose three words to describe the new mood of the painting.

Next, click the third and final circle below the image, which will restore it to its original color composition. Choose three new words to describe the original painting.

3.) Click “Next: The Physiological Color Experiments”. Try the experiment. It is similar to the one from the Color Theory PowerPoint. Next, click “What color do you see?”

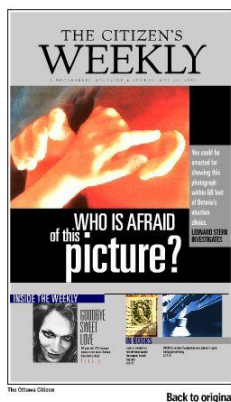
4.) Explain “afterimage” and “simultaneous contrast”.

5.) Click “Go to the Color Wheel” and then read about complementary colors. Next, click “Let’s look at how colors react when surrounded by other colors”. Look at the three squares.



- Is the green color within each square the same shade of green or different?
- Which green seems “warmer” (more yellow) and which seems “cooler” (more blue)?
- Which is the darkest and which is the lightest green?
- How does simultaneous contrast explain the appearance of different shades of green within the different colored squares? (Hint: remember that blue and yellow make green and that blue is darker in value than yellow.)

- 6.) Click “Next”. Experiment with different colored squares by clicking the small circles of color below each of the squares. Try to make the greens appear as different from each other as possible. What three colors did you choose?
- 7.) Now try to make the greens seem the same. Which three colors did you choose?
- 8.) Click “Let’s look at the unique properties of the color gray”. Read about gray. Why does it appear to have a tint of the complement of the color surrounding it?
- 9.) Click “Try it yourself. Go to the next example.” Experiment with different surrounding colors by clicking on the circles below each square. Notice how they change. Also notice how values interact. When surrounded by a lighter color, the gray square within will appear darker. When surrounded by a darker color, the gray will appear lighter.
- 10.) Click “Before going to the next page, click here for a page design exercise”. Create your page. Make sure that you choose color combinations that will make the words to really “pop”. They need to be visible enough to catch the attention of the reader. You’re going for maximum impact here. *Be thorough in this exercise. Your final assignment for the color project will be to design an advertisement and you’ll need to take similar concerns into consideration with that.*



Notice how the mood and the three-dimensional quality of the photo changes depending on the choice and intensity of colors surrounding it.

What color did you choose for the:

- Section label:
- Overall background:
- Black background:
- Main headline:
- Labels and accents:

SECTION 2: “CONTRAST AND DIMENSION: Color Contrasts”

11.) Click “Next: Exploring Contrast and Dimension.” Read about Contrast and Dimension. Examine the squares of color on the left side of the screen. Squinting your eyes will make it easier to detect which colors come forward and which move back in space the most.

- Which two colors come forward the most?
- Which two move backward the most?

12.) Click “Next”. Read the explanation of the exercise on the right and try different percentages of color by clicking on the squares to the left. Then fill in the blanks with “forward” or “backward” below.

- Darker colors move _____ in space, lighter colors move _____ in space.
- Brighter colors move _____ in space, neutral colors move _____ in space.
- Warmer colors move _____ in space, cooler colors move _____ in space.

Click “Understanding How Color Contrasts Create Dimension”.

SECTION 3: Johannes Itten’s Seven Color Contrasts

In this section you may navigate as you please. Click the circle button at the bottom of the screen which reads “Color, Contrast and Dimension” then click the right arrow twice to return to this page titled “Johannes Itten”. From this page you can click on any of the seven types of color contrast to read about them and do any activities included. If you’d rather navigate this section in order you may. Instead of answering specific questions about each of these terms you will be required to write a definition of each type of color contrast listed below. Make sure that you do the activities because they will be practice that is essential to successfully executing the final project in this unit.

1.) Define contrast in hue

Online Activity Guide

2.) Define contrast of Light and Dark

3.) Define contrast of Cool and Warm

4.) Define contrast of Complementary Colors

5.) Define Simultaneous Contrast

6.) Define contrast of Saturation

7.) Define contrast of Proportion

SECTION 3: “EYE-TRAC RESEARCH”

Online Activity Guide

To get to the next section of the lesson click the fifth circular button at the bottom of the page (near “Navigate by Section”) which reads “Eye-Trac Research” when you role your mouse over it. Then, read about Eye-Trac Research. Next, click “Results of the Eye-Trac Study.”

13.) Why did the readers in the study say that they preferred colorful pages to less colorful pages? Which page on the left side of the screen captures more of your attention?

14.) From what you know about color contrast, explain why the page that you chose stands out next to the other, similar page.

15.) Click “Next.” Read about dominant images. Choose three elements in one of the front pages on the left side of the screen and explain why they are more or less attention grabbing than the similar element on the other page. Use what you know about color theory to help with your explanation.

Element 1:

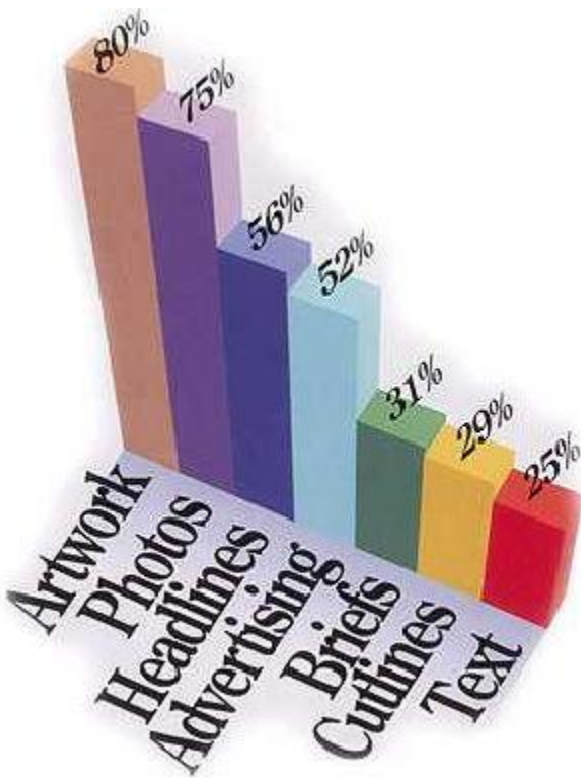


Element 2:

Element 3:

16.) Click “Next.” Read about page navigation. Why is it a good idea to design facing pages (pages that face each other) at the same time? What could be troublesome about facing pages which both show dominant images?

- 17.) Click “Next.” Read about the results of the Eye-Trac study and examine the bar graph. Why would artwork and photos generate more attention than text? How can you explain this in terms of color contrast and proportion? (Hint: Think about what kinds of contrast are possible in artwork as opposed to text.)



Works Cited

Online Activity Guide

Color, Contrast and Dimension in News Design. Ed. Peggy Stark Adam, Anne Conneen and Bill Mitchell.

2001. Poynter Institute. 20 August 2008

<http://poynterextra.org/cp/colorproject/color.html>

Newman, Geoffrey. "Colour." Grove Dictionary of Art. Vol. 7. London: Macmillan Press, 2000.

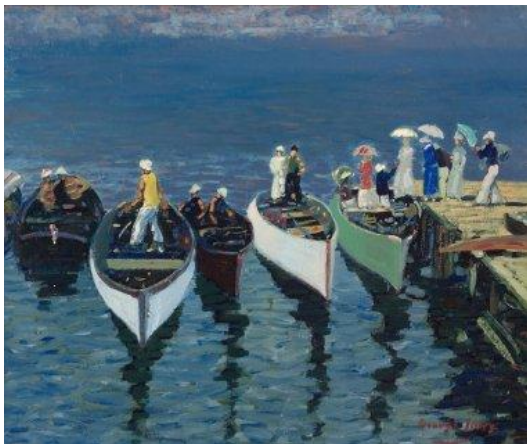
Color Unit Image List



Dora Wheeler, William Merritt Chase (American, 1849 - 1916) 1882-1883 1921.1239
Gallery - SC 236



Portrait of King Louis XIII of France, Frans Pourbus (Flemish, 1569 - 1622) 1611. 2003.225
Gallery - SC 218



Holiday on the Hudson, George Benjamin Luks (American, 1867 - 1933) c. 1912 2291.1933
Gallery - SC 236



The Oath of Abraham's Servant, Giovanni Benedetto Castiglione (Italian, 1609 - 1664) c. 1650-1659. 1969.1
Gallery - SC 218



The Holy Family on the Steps, Nicolas Poussin (French, 1594 - 1665) 1648. 1981.18
Gallery - SC 218

Color Unit Image List



Esther, Ahasuerus, and Haman, Jan Steen (Dutch, 1626 - 1679) c. 1668. 1964.153
Gallery - SC 217



Saint Peter Repentant, Georges de La Tour (French, 1593 - 1652) 1645. 1951.454
Gallery - SC 216



The Denial of Peter, Peter Wtewael (Dutch, 1596 - 1660) c. 1624-1628. 1972.169
Gallery - SC 217



Hermes Ordering Calypso to Release Odysseus, Gerard de Lairese (Flemish, 1641 - 1711) c. 1670. 1992.2
Gallery - SC 217

Color Unit Image List



Fountain of Venus, François Boucher (French, 1703 - 1770) 1756. 1979.55
Gallery - SC 211



Armchair, attributed to Nicolas Heurtaut (French, 1720 - 1771) c. 1755. 1989.160
Gallery - SC 211



Noah: The Eve of the Deluge, John Linnell (British, 1792 - 1882) 1848. 1972.119
Gallery - SC 206



Armchair, France, 18th century c. 1715-1723. 1925.1219
Gallery - SC 213

How old are you?

Are you male or female?

Which do you like more: making paintings or looking at paintings?

Find: *Holiday on the Hudson* by George Luks.

- 1.) Walk up to the painting and notice the first thing that you see when you look at it, and then pay attention to the way that your eyes move around the painting after you notice that first thing. What did you see between the first thing you noticed in the painting and the last? Describe the way that your eyes saw the elements of the painting and the way that they moved around the canvas from the first to the last thing that you noticed.
- 2.) Number the colors listed below from 1-8 in the order of which you noticed them when viewing *Holiday on the Hudson*:

Red___ Orange___ Yellow___ Green___ Blue___ Purple___ Black___ White___

Find: *Dora Wheeler* by William Merritt Chase

- 3.) Describe this painting using three different adjectives.
- 4.) I like this painting of Dora Wheeler.
Circle one: YES, I agree with this statement NO, I don't agree with this statement.
- 5.) Explain why you agree or don't agree with the statement "I like this painting of Dora Wheeler".

Find: *The Holy Family on the Steps* by Nicolas Poussin

- 6.) Which color do you notice first when viewing this painting?
- 7.) Can you explain how the colors around this color caused you to see it first?

Find: *The Oath of Abraham's Servant* by Giovanni Benedetto Castiglione AND read the label text

- 8.) If you were to judge by the colors of this painting alone, who would you say is the main character in this painting?
- 9.) Imagine this painting without the brilliant blue *zamt*. Would the piece be more or less interesting without it?

Circle one: more interesting less interesting

- 10.) Circle a, b, or c.
- a.) I think that the blue *zamt* is symbolic of the servant's loyalty to Abraham.
 - b.) I think that the blue *zamt* is a visual element that balances the composition of this painting.
 - c.) I think that the blue *zamt* is both a symbol and visual element which creates compositional balance in this painting.

Find: *The Denial of Peter* by Peter Wtewael and *Saint Peter Repentant* by Georges de La Tour

- 11.) Look at the high contrast in light and dark in these two paintings of similar subject matter. Does this style evoke an emotion that could be attributed to the way Peter feels about denying Christ?
- 12.) The color red is present in both paintings. Circle the emotion that you believe red represents in these two paintings.

Anger Fear Passion Guilt Pressure Confusion

Find: *Hermes Ordering Calypso to Release Odysseus* by Gerard de Lairese

- 13.) What is the brightest color in this painting?
- 14.) Allow your eyes to wander around the painting. What shape are they following?

Find: *Esther, Ahasuerus and Haman* by Jan Steen

- 15.) Which character in this painting was the first to catch your eye, Esther, Ahasuerus, Haman, or somebody else?
- 16.) Explain why you saw this character first.

Find: *The Fountain of Venus* by Francois Boucher

- 17.) Notice that there is very little contrast in hue throughout this painting. The colors are primarily neutral, which seems like it should make this image seem very flat. But in fact, the opposite is true. What type of contrast did Boucher use to give this image its depth and dimension? (It might help to step back and look at the painting with squinted eyes.)

Find: Two Armchairs, one with pink upholstering (fabric) and one with purple. They are objects 1989.160 (purple) and 1925.1219 (pink). They are in different galleries, but the galleries are next to each other.

- 18.) Get a good look at both chairs. They are both from 18th century France. Decide which chair you would guess belonged to a man, and which belonged to a woman.

The pink chair belonged to a _____.

The purple chair belonged to a _____.

Find: *Noah: The Eve of the Deluge* by John Linnell

- 19.) What 3 emotions do you associate with this painting of Noah the night before the flood?

- 20.) Name 2 of the 4 types of color contrast that make the weather in this painting seem so dramatic?

Qualitative and Quantitative

Asking questions and getting
answers.

What does it mean?

- **Qualitative**: the root of this word is *quality*. Qualitative research is about understanding the qualities of what you are researching.
- **Quantitative**: the root of this word is *quantity*. Quantitative research is about determining a quantity to better understand what you are researching or to test a theory about who/what you are researching.

Qualitative Research

- Conducted through interviews, surveys with open-ended questions (questions which do not have yes, no, or either/or answers), or through in-depth observation of verbal or non-verbal behavior.
- Produces qualitative data: words, descriptions, personal accounts.

Types of Qualitative Research

- One-on-one interviews
- Group interviews, called focus groups in marketing
- Case studies: in depth studies of one particular instance of what you are researching.
- Ethnography: in-depth study through extensive interviewing of a sociocultural community in order to better understand the attitudes, beliefs, behaviors and sensibilities of that community.
- Historical research: studying the trends of the past in order to explain the present (Neill).

Types of Quantitative Research

- Surveys which produce answers that are quantifiable. Either-or questions, yes or no questions, agree or disagree, etc. The answers to these questions can be gathered up, studied, and then expressed in percentages, graphs, numbers.
- Generally, a type of study which involves an instrument of measure of some sort: could be survey, could be a taste-test, etc.

Using qualitative and quantitative research methods

- When it comes right down to it, both types of research help researchers get to know a group of people. Which is why they are most often used by **social** scientists such as:
 - *psychologists
 - *anthropologists
 - *ethnographers
 - *market researchers

And both come down to QUESTIONS

- Qualitative research asks open-ended questions such as “What did you like about going to the art museum?”
- Whereas quantitative research asks questions such as “Did you like going to the art museum?”

With Answers

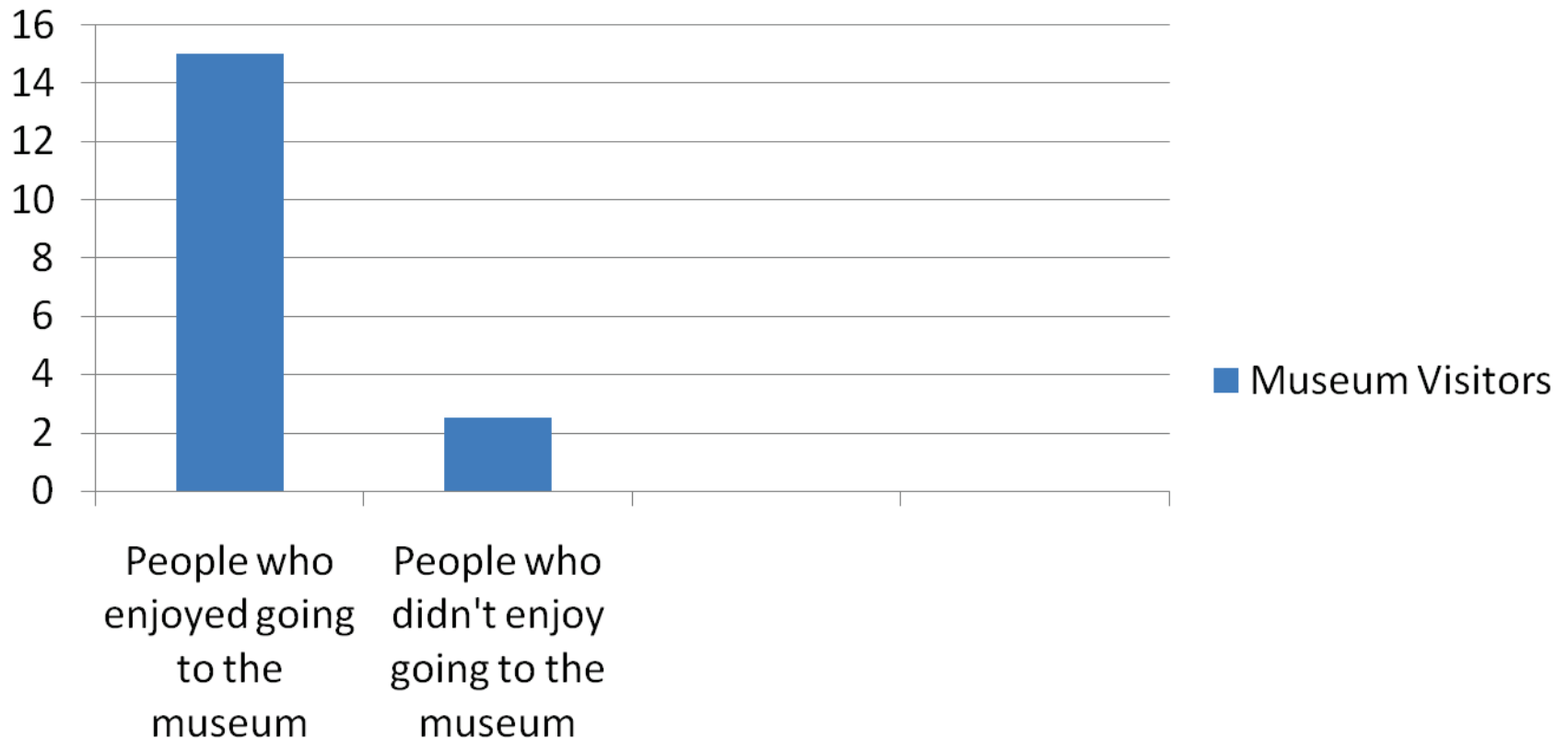
- Qualitative question answer: “I liked seeing all the art by local artists next to greats like Whistler, Monet, Rodin, and Caravaggio and noticing how there was little or no difference in the quality of all the work.”
- Quantitative question answer: “Yeah, I liked going to the art museum.”

Analysis

- Qualitative data analysis involves reading and summarizing to form conclusions
- Quantitative data analysis involves calculation and graphing.

Example of Quantitative Research Analysis

Museum Visitors



What are the pros and cons?

- To qualitative research
- To quantitative research

Identifying which is which

- Let's look at our museum activity questionnaires .
- In groups of two or three, identify which questions were along the lines of qualitative and quantitative research.
- Then go over the questions together as a class to identify which were which.

References

- Duboff, Robert and Jim Spaeth. Market Reserch Matters. New York: Wiley and Sons, Inc., 2000.
- Johnson, Winslow. Powerhouse Marketing Plans. New York: American Management Association, 2004.
- Neill, James. Analysis of Professional Literature Class6 Qualitative Research I. Course Home Page. Jan. 2006-May 2006. Wilderom. 5 Jul. 2006
<<http://www.wilderdom.com/OEcourses/PROFLIT/Class6Qualitative1.htm>>
- Siegle, Del. "Qualitative versus Quantitative." 5 Jul. 2006. Lkd. Analysis of Professional Literature Class6 Qualitative Research I. 22 August 2008.
<<http://www.wilderdom.com/OEcourses/PROFLIT/Class6Qualitative1.htm>>

Qualitative, Quantitative, and Question Writing Guide

Features of Qualitative & Quantitative Research (Neill)

Qualitative	Quantitative
"All research ultimately has a qualitative grounding" - Donald Campbell	"There's no such thing as qualitative data. Everything is either 1 or 0" - Fred Kerlinger
The aim is a complete, detailed description.	The aim is to classify features, count them, and construct statistical models in an attempt to explain what is observed.
Researcher may only know roughly in advance what he/she is looking for.	Researcher knows clearly in advance what he/she is looking for.
Recommended during earlier phases of research projects.	Recommended during latter phases of research projects.
The design emerges as the study unfolds.	All aspects of the study are carefully designed before data is collected.
Researcher is the data gathering instrument.	Researcher uses tools, such as questionnaires or equipment to collect numerical data.
Data is in the form of words, pictures or objects.	Data is in the form of numbers and statistics.
Subjective - individuals' interpretation of events is important ,e.g., uses participant observation, in-depth interviews etc.	Objective – seeks precise measurement & analysis of target concepts, e.g., uses surveys, questionnaires etc.
Qualitative data is more 'rich', time consuming, and less able to be generalized.	Quantitative data is more efficient, able to test hypotheses, but may miss contextual detail.

Researcher tends to become subjectively immersed in the subject matter.	Researcher tends to remain objectively separated from the subject matter.
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(the two quotes are from Miles & Huberman (1994, p. 40). *Qualitative Data Analysis*)

Making Your Survey—Project Description

In groups, you are required to make a survey of 3-4 qualitative and 3-4 quantitative questions (a total of 6-8 questions) with the goal of determining either:

- a.) What does a specific color mean in our culture (in this case, the very specific culture made up of the your classmates)? You can pick the color (choose between red, black, white, yellow, green and blue) and no two groups can study the same color. You will use the visual references of works from the Cleveland Museum of Art collection to formulate your survey questions and present to the participants of your study. You should talk amongst yourselves about what the particular color means to the group in order to guide your question writing process. You will write the survey as a group, distribute it to the class, then analyze the results and make a visual representation of your findings (graphs, tables, charts, etc.) in the form of a poster that you will present to the class.
- b.) What would be the ideal painting to hang in the classroom in order to promote a productive work environment. In groups you will choose 2-3 paintings from those viewed during the field trip to survey the class about with the goal of determining which students feel would best improve their work habits. You will use the visual references of works from the Cleveland Museum of Art collection to choose the pieces and formulate your survey questions. You will write the survey as a group, distribute it to the class, then analyze the results and determine which painting your classmates feel would most effectively promote good work habits. Your task will then be to use what you've learned about color theory and contrast to design an advertisement poster to market the painting in other classrooms like yours.

Writing Survey Questions (“Guide to Writing Survey Questions”)

General guidelines include:

- Don't ask a question if the answer is obvious. For example, *"Does the color blue make this painting seem warm or cool in this painting?"*
- Avoid abbreviations and jargon. If they must be used, clearly define them.
- Ask yourself whether several questions are actually necessary or if you can get the information in one question. Don't try to cram too much into one question.
- Make your questions easy to understand. Make sure your sample population understands them.
- Avoid misleading or biased questions.

- Consider whether respondents will willingly provide the information. How personal is it? In cases where you need to collect very personal information, for example, HIV infection status, repeat your policy on anonymity.
- If a list of answers is provided, make sure all possible answers are present. Even with "yes" and "no" questions, it may be necessary to include a neutral "undecided" or "don't know."
- Start a sequence with the question that is most comfortable to answer. This focuses the respondent.
- Don't mix "I feel" or "I think" questions with questions regarding facts. Keep factual and perception questions in separate groupings.
- Place sensitive demographic questions (such as age or income) at the end of the survey.
- Don't get carried away with scales, particularly those that are sets of numbers with end labels. Usually a five-point scale is sufficient. Beyond that, people have trouble defining the points. For example, what is a "5" on a scale of 1 to 12?
- Scales should be meaningful. For example, don't ask respondents to differentiate between small increments of time (for example, 1-2 minutes or 2-3 minutes).
- ¹ Neill, James. *Qualitative versus Quantitative Research: Key Points in a Classic Debate*. <http://wilderdom.com/research/QualitativeVersusQuantitativeResearch.html>. Last updated February 28, 2007. Accessed August 20, 2008.
- ¹ "Guide to Writing Survey Questions". *Management Analysis Development*. 2008. State of Minnesota. 22 August 2008
<<http://www.admin.state.mn.us/mad/surveyquestions.htm#Question>>.

Project Description

This project is geared toward students interested in the anthropological uses of qualitative and quantitative research. The students will work in teams of approximately 4 to complete this project. Their ultimate goal will be to devise a survey based study of an aspect of color meaning or symbolism in culture. They will begin by brainstorming a topic to explore and then stating a specific research question and goal. They will write a survey consisting of 3-4 quantitative and 3-4 qualitative questions, analyze quantitative data by choosing the appropriate type of chart or graph to represent their results, and analyze qualitative data by discussion the results and then writing a summary of the data. They will then draw conclusions and present their findings to the class.

Example—

“Gendered Color”

Goal: Our goal is to determine whether our peers consider some colors masculine and some colors feminine and if so, which colors are which.

Quantitative Questions:

- 1.) Among the following colors, circle up to three that you consider the most feminine. If you consider none of the colors to be feminine, do not circle any colors.

Red
Orange
Yellow
Green
Blue
Purple
Black
White
Pink
Grey
Brown

- 2.) Among the following colors, circle up to three that you consider the most masculine. If you consider none of the colors to be masculine, do not circle any colors.

Sample Survey and Data Analysis 1
Color Meanings and Symbolism in Culture: Ethnography

Red
Orange
Yellow
Green
Blue
Purple
Black
White
Pink
Grey
Brown

3.) Circle your gender

M F

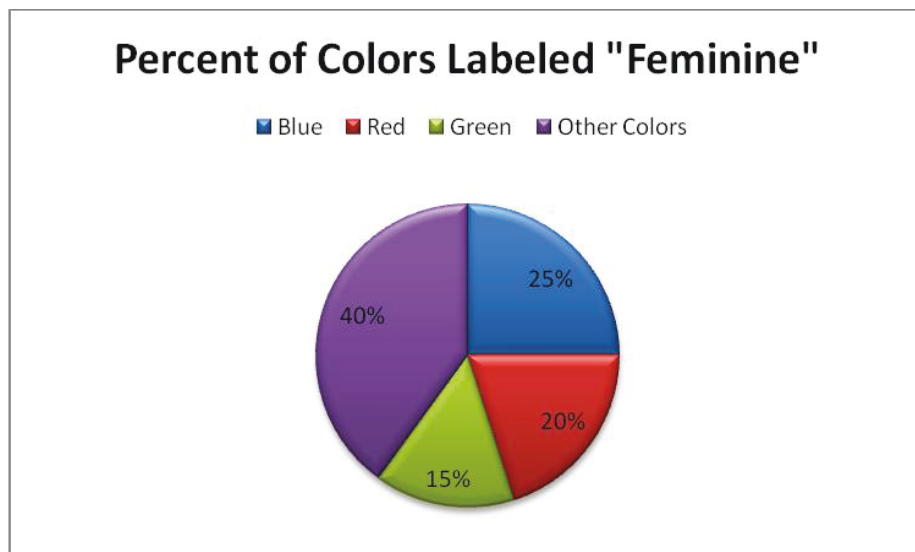
Qualitative Questions:

- 1.) Explain why you answered quantitative question #1 the way that you did.

- 2.) Explain why you answered quantitative question #2 the way that you did.

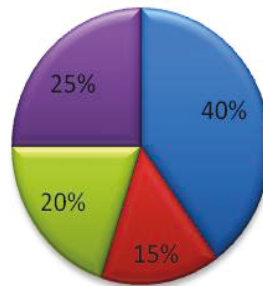
- 3.) What do you think causes people to see things like color as either masculine or feminine?

Analysis Component (Quantitative)



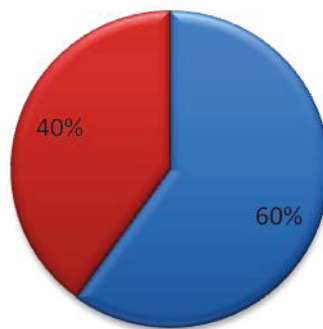
Percent of Colors Labeled "Masculine"

■ Blue ■ Red ■ Green ■ Other Colors



Gender of Survey Respondents

■ Female ■ Male



Analysis Component (Qualitative)

The goal of our study was to determine whether our peers consider some colors masculine and some colors feminine and if so, which colors are which. We found that when asked to label by circling up to three out of eleven colors as either masculine or feminine our sample population three colors, blue red, and green more frequently than the other eight colors. We asked our respondents to explain why they chose the colors that they chose (or why they didn't choose to label any colors as masculine or feminine if that was their belief).

Sample Survey and Data Analysis 1

Color Meanings and Symbolism in Culture: Ethnography

In response to the first and second questions in which respondents were asked to explain why they labeled the colors that they did as feminine or masculine, respectively, we found that most respondents cited culture as the most influential factor in determining which colors to circle. Some respondents mentioned colors in which newborn infants are first dressed as the start to a notion of “gendered colors”. One respondent discussed symbolism in colors and stated “blue symbolizes masculinity”.

In response to the third question, most respondents reiterated the justifications that they made for their choices in the first and second questions.

Interestingly, one respondent did not label any colors as masculine or feminine and during the qualitative portion of the survey explained that he did not label any of the colors because the questions were too broad, having not specified in what cultural context the colors were to be labeled. For the third qualitative question he then explained his belief that people consider colors to be gendered as a result of cultural construction of color symbolism.

Conclusions

We have concluded that within the cultural context of our classroom, certain colors are perceived by the sample population to be gender related. Our study has shown that most respondents associate the color blue with masculinity and the color red with femininity and that these perceptions are culturally formed. We cannot assume that we can accurately project our statistics onto the broader populations of our school, its surrounding community, region, state, country, etc. as our sample population was limited to the highly specific demographic of our classroom.

****The data presented here are completely artificial and not based on any actual research. They were created simply to make visual and concept examples for teacher reference materials.***

Project Description

This project is geared toward students interested in the uses of qualitative and quantitative research in marketing and advertising. The students will work in teams of approximately 4 to complete this project. The ultimate goal will be to determine a painting that their peers feel would positively affect productivity in a classroom setting. They will begin by brainstorming to decide on two paintings that they feel would be best suited to the purpose and then devise a survey study to determine which painting to market. They will write a survey consisting of 3-4 quantitative and 3-4 qualitative questions, analyze both types of data to determine which painting to market, and draw conclusions. They will then design a poster advertisement for the painting using at least 3 principals of color theory and present their study results and poster to the class detailing their research conclusions and design concepts to the class.

Example—

“Dora Wheeler vs. Noah: The Eve of the Deluge”

Goal: Our Goal is to determine whether our classmates feel that *Dora Wheeler* by William Merritt Chase or *Noah: The Eve of the Deluge* by John Linnell would be more appropriate to hang in the classroom to improve classroom productivity.

Quantitative Questions:

- 1.) Examine the painting *Dora Wheeler* by William Merritt Chase. Circle the word that you think most appropriately describes the mood of this painting.

Calm Imposing Tense Pensive Powerful Chaotic Quiet
Austere

- 2.) Examine the painting *Noah: The Eve of the Deluge* by John Linnell. Circle the word that you think most appropriately describes the mood of this painting.

Calm Imposing Tense Pensive Powerful Chaotic Quiet
Austere

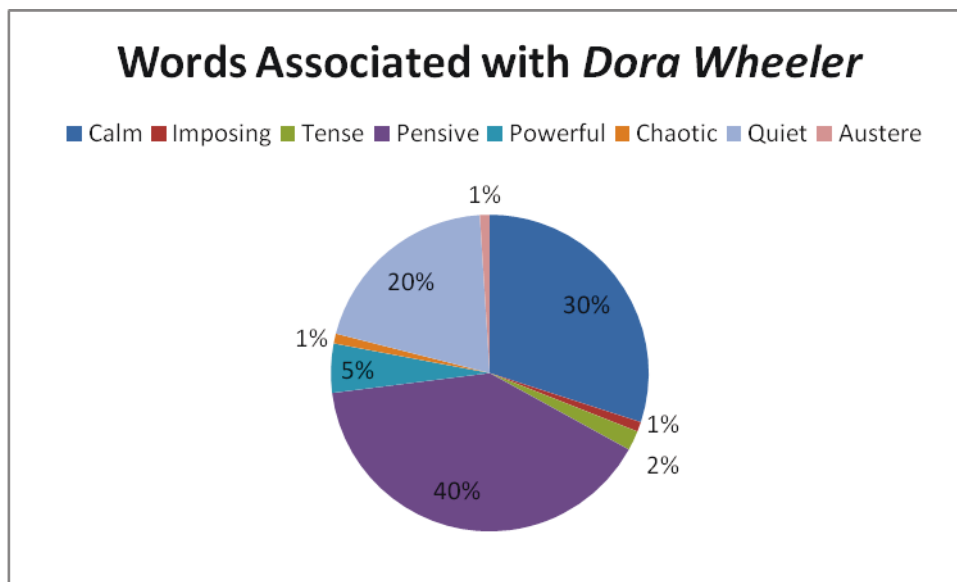
- 3.) Among these two paintings, which do you consider the most distracting?

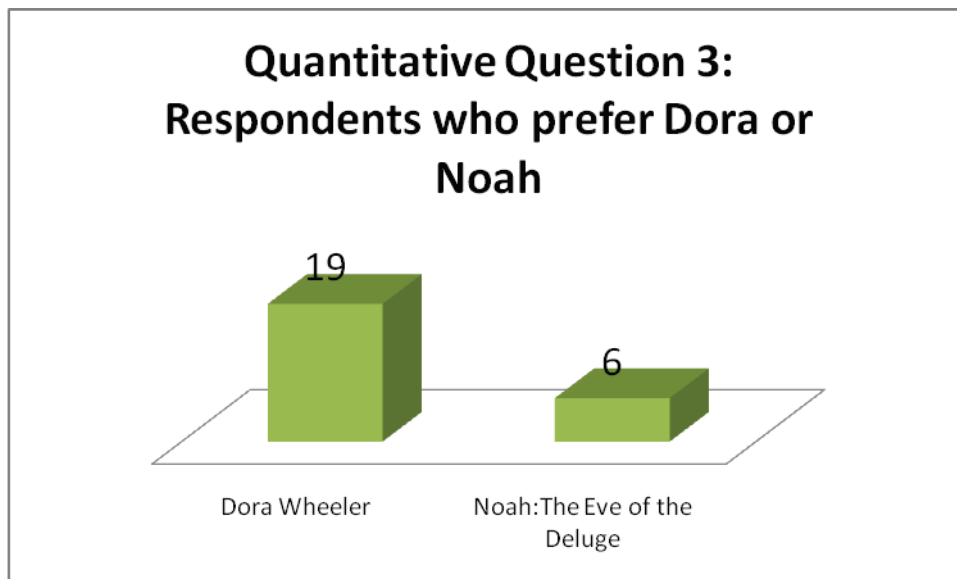
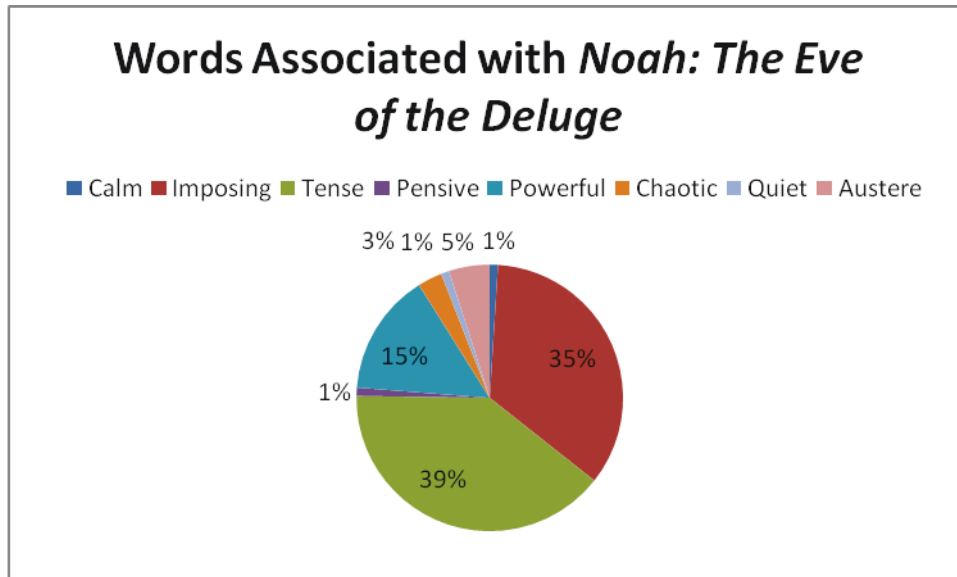
Dora Wheeler *Noah: The Eve of the Deluge*

Qualitative Questions:

- 1.) What qualities of the *Dora Wheeler* painting make it an appropriate piece to hang in our classroom to increase productivity and concentration?
- 2.) What qualities of *Noah: The Eve of the Deluge* make it an appropriate piece to hang in our classroom to increase productivity and concentration?
- 3.) Explain your answer to quantitative question 3 above.

Analysis Component (Quantitative)





Analysis Component (Qualitative)

In response to qualitative question #1, respondents generally noted the rich but harmonious color palette, the pensive gaze of the painting's subject and the "overall calmness" of the *Dora Wheeler* painting which make it an appropriate piece to hang in the classroom to promote productivity and concentration. Only one person expressed feeling threatened by the "imposing gaze" of the sitter which led this person to believe that the painting would "not be suitable" for said purposes.

In response to qualitative question #2, most subjects expressed concern about the overall mood of the painting as tense and therefore distracting. Many did say the painting is very powerful and that that power could be associated with work ethic and effort.

In response to qualitative question #3, the 19 people who had stated that *Dora Wheeler* would be a more appropriate decoration choice for the classroom generally expressed that they were made to think themselves when gazing back at Dora Wheeler and her concentrated facial expression. The majority also gave reasons why they didn't choose *Noah*. As for the 6 who chose *Noah*, most cited the story of Noah from the bible, mentioning Noah's work ethic as a good example.

Conclusions

This study leads us to the conclusion that we will be more successful marketing the painting of Dora Wheeler as a classroom tool to increase productivity and concentration. Qualitative research leads us to believe that we should underscore the color palette and pensive gaze of the sitter in advertising the painting. *See Sample Advertisement.*

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What Are

You



Thinking About?

Concentration is the secret of strength. – Ralph Waldo Emerson

Sample Advertisement

Uses of Ideas from Color Theory:

- Contrast of hue—The blue and gold here harmonize with each other because the gold has the slightest tinge of orange, blue's complement, which makes them harmonize well. This is not contrast of complements because the gold is still more yellow than orange.
- Contrast of Light and Dark (value)—The black, blue and yellow have even balance of dark, medium, and light values, respectively.
- Contrast of warm and cool—Blue represents the cool colors here and gold the warm.
- Contrast of proportion—The black boxes help to make the text visible around the very much larger image of the painting, however as visual elements the text remains smaller than the image.

Uses of Information Gleaned from Quantitative/Qualitative Research

- The qualitative research questions revealed that the color palette and gaze of Dora Wheeler seem to be the aspects of the painting which respondents most frequently cited as influential in their decision to choose this painting over the other. Therefore the text was chosen to reflect the sitter's gaze while question the viewer's state of mind, and designed to reflect the color palette of the painting (blue and gold).

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